



TETRA TECH NUS

PHIL-19524

TO: RUSS TURNER DATE: OCTOBER 5, 2005
FROM: MEGAN N. RITCHIE COPIES: FILE
SUBJECT: ORGANIC DATA VALIDATION – VOCs, METHANE, ETHYLENE, ETHANE, 1,4-DIOXANE
NAS JRB WILLOW GROVE, PENNSYLVANIA
SDG NO. T4414
SAMPLES: 6/Aqueous/
05MW12S DUP-04 RB-082505
05MW14I FB-082505 TB-082505

OVERVIEW

The sample set for NAS JRB Willow Grove Site 5 – Willow Grove, PA, SDG T4414 consists of three aqueous environmental samples (designated 05MW- and DUP-) and three field quality control (QC) blank (designated FB-, RB-, and TB-). One field duplicate pair (05MW14I and DUP-04) was included in this sample set. All samples were analyzed for target compound list (TCL) Volatile Organic Compounds (VOCs) and 1,4-Dioxane. The trip blank was analyzed for VOCs only. Only samples 05MW12S and 05MW14I were analyzed for Methane, Ethylene, and Ethane.

The samples were collected by Tetra Tech NUS on August 25, 2005 and analyzed by Chemtech of Mountainside, New Jersey.

All analyses were conducted using EPA SW-846 Methods 8260 for VOCs and 8270 for 1,4-Dioxane. Methane, ethylene, and ethane were analyzed using the Robert S. Kerr (RSK) Method RSKSOP-147/175.

SUMMARY

All analytes were successfully analyzed in all samples. The findings offered in this report are based upon a general review of all available data including data completeness, holding times until analysis, GC/MS tuning and calibration data, laboratory and field quality control blank results, system monitoring compound recoveries, matrix spike/matrix spike duplicate results, laboratory control spike/spike duplicate results, internal standards performance, compound identification, and compound quantitation.

MAJOR PROBLEMS

- The initial calibration for 2-butanone exhibited a relative response factor (RRF) below 0.05. Non-detected results for 2-butanone in the associated samples were qualified as unusable (UR).

MINOR PROBLEMS

- The initial calibration percent relative standard deviation (%RSD) for methylene chloride exceeded the QC criteria of 50%. The non-detected results for methylene chloride in the associated samples were qualified as estimated (UJ).

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- The continuing calibration percent difference (%D) for tetrachloroethene exceeded the QC criteria of 25%. The positive result for tetrachloroethene in sample 05MW12S was qualified as estimated (J).
- The system monitoring compound (SMC) 4-bromofluorobenzene recovery exceeded the QC criteria of 119% for sample 05MW12S. The non-detected results for sample 05MW12S were qualified as estimated (UJ).
- Positive results at concentrations less than the Reporting Limits (RLs) were qualified as estimated (J).

NOTES

Several continuing calibration compound percent differences (%Ds) exceeded QC criteria of 25%. No qualifications were made because there were no positive results for those compounds in the associated samples.

A relative response factor (RRF) for acetone was below the QC criteria of 0.05 in a continuing calibration. No acetone results associated with this continuing calibration were reported.

Methylene chloride was detected in two field QC blanks and a laboratory method blank. No qualifications were made because there were no positive detections of methylene chloride in the samples.

The MS/MSD recoveries and relative percent differences (RPDs) exceeded QC criteria for 1,1-dichloroethene, benzene, and trichloroethene. No qualifications were made on MS/MSD data alone.

The MS/MSD RPD for methane exceeded the QC criteria of 20%. No qualifications were made on MS/MSD data alone.

Field duplicate pair 05MW14I and DUP-04 exhibited RPDs within QC criteria. A comparison of the results is located in Appendix C.

The methane, ethylene, ethane, and 1,4-dioxane data is acceptable as reported by the laboratory.

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EXECUTIVE SUMMARY

Laboratory Performance: Two compounds exhibited RRFs below the QC criteria in the initial and continuing calibrations. One compound exceeded initial calibration RSD criteria. Several compounds exceeded continuing calibration %D criteria. One sample exhibited system monitoring compounds that exceeded QC criteria.

Other Factors Affecting Data Quality: Methylene chloride was detected in two field QC blanks. Three compounds exhibited MS/MSD recoveries and RPDs that exceeded QC criteria.

The data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Organic Data Review", as amended for use within EPA Region 3 (9/94).

The text of this report has been formatted to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the Functional Guidelines and the Quality Assurance Project Plan (QAPjP)."

Megan N. Ritchie
Megan N. Ritchie
Chemist

Russell Sloboda
Tetra Tech NUS, Inc.
Russell Sloboda
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

Qualified Analytical Results

PROJ_NO: 2192

SDG: T4414 MEDIA: WATER DATA FRACTION: OV

nsample 05MW12S
 samp_date 8/25/2005
 lab_id T4414-03
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF:

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	2.3	J	R
1,1,2,2-TETRACHLOROETHANE	0.09	UJ	R
1,1,2-TRICHLOROETHANE	0.8	J	PR
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	UJ	R
1,1-DICHLOROETHENE	3	J	R
1,2,4-TRICHLOROBENZENE	0.08	UJ	R
1,2-DIBROMO-3-CHLOROPROPANE	0.2	UJ	R
1,2-DIBROMOETHANE	0.12	UJ	R
1,2-DICHLOROBENZENE	0.08	UJ	R
1,2-DICHLOROETHANE	0.13	UJ	R
1,2-DICHLOROPROPANE	0.15	UJ	R
1,3-DICHLOROBENZENE	0.1	UJ	R
1,4-DICHLOROBENZENE	0.12	UJ	R
2-BUTANONE	0.23	UR	CR
2-HEXANONE	0.57	UJ	R
4-METHYL-2-PENTANONE	0.46	UJ	R
ACETONE	1.6	UJ	R
BENZENE	0.15	UJ	R
BROMODICHLOROMETHANE	0.14	UJ	R
BROMOFORM	0.09	UJ	R
BROMOMETHANE	0.18	UJ	R
CARBON DISULFIDE	0.11	UJ	R
CARBON TETRACHLORIDE	0.16	UJ	R
CHLOROBENZENE	0.11	UJ	R
CHLORODIBROMOMETHANE	0.13	UJ	R
CHLOROETHANE	0.46	UJ	R
CHLOROFORM	0.16	UJ	R
CHLOROMETHANE	0.08	UJ	R
CIS-1,2-DICHLOROETHENE	7.2	J	R
CIS-1,3-DICHLOROPROPENE	0.12	UJ	R
CYCLOHEXANE	0.15	UJ	R
DICHLORODIFLUOROMETHANE	0.12	UJ	R

nsample 05MW12S
 samp_date 8/25/2005
 lab_id T4414-03
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF:

Parameter	Result	Val Qual	Qual Code
ETHYLBENZENE	0.11	UJ	R
ISOPROPYLBENZENE	0.12	UJ	R
M+p-XYLENES	0.61	J	PR
METHYL ACETATE	0.16	UJ	R
METHYL CYCLOHEXANE	0.14	UJ	R
METHYL TERT-BUTYL ETHER	0.22	UJ	R
METHYLENE CHLORIDE	0.42	UJ	CR
O-XYLENE	0.13	UJ	R
STYRENE	0.11	UJ	R
TETRACHLOROETHENE	1.2	J	CR
TOLUENE	0.65	J	PR
TOTAL XYLEMES	0.61	J	PR
TRANS-1,2-DICHLOROETHENE	0.1	UJ	R
TRANS-1,3-DICHLOROPROPENE	0.1	UJ	R
TRICHLOROETHENE	3.7	J	R
TRICHLOROFUOROMETHANE	0.1	UJ	R
VINYL CHLORIDE	0.09	UJ	R

nsample 05MW12SDL
 samp_date 8/25/2005
 lab_id T4414-03DL
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF:

Parameter	Result	Val Qual	Qual Code
1,1-DICHLOROETHANE	27		

PROJ_NO: 2192

SDG: T4414 MEDIA: WATER DATA FRACTION: OV

nsample 05MW141
 samp_date 8/25/2005
 lab_id T4414-04
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF: DUP-04

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	20		
1,1,2,2-TETRACHLOROETHANE	0.09	U	
1,1,2-TRICHLOROETHANE	0.11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	U	
1,1-DICHLOROETHANE	13		
1,1-DICHLOROETHENE	24		
1,2,4-TRICHLOROBENZENE	0.08	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	U	
1,2-DIBROMOETHANE	0.12	U	
1,2-DICHLOROBENZENE	0.08	U	
1,2-DICHLOROETHANE	0.13	U	
1,2-DICHLOROPROPANE	0.15	U	
1,3-DICHLOROBENZENE	0.1	U	
1,4-DICHLOROBENZENE	0.12	U	
2-BUTANONE	0.23	UR	C
2-HEXANONE	0.57	U	
4-METHYL-2-PENTANONE	0.46	U	
ACETONE	1.6	U	
BENZENE	0.15	U	
BROMODICHLOROMETHANE	0.14	U	
BROMOFORM	0.09	U	
BROMOMETHANE	0.18	U	
CARBON DISULFIDE	0.11	U	
CARBON TETRACHLORIDE	0.16	U	
CHLOROBENZENE	0.11	U	
CHLORODIBROMOMETHANE	0.13	U	
CHLOROETHANE	0.46	U	
CHLOROFORM	0.16	U	
CHLOROMETHANE	0.08	U	
CIS-1,2-DICHLOROETHENE	2		
CIS-1,3-DICHLOROPROPENE	0.12	U	
CYCLOHEXANE	0.15	U	

nsample 05MW141
 samp_date 8/25/2005
 lab_id T4414-04
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF: DUP-04

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	0.12	U	
ETHYLBENZENE	0.11	U	
ISOPROPYLBENZENE	0.12	U	
M+p-XYLENES	0.24	U	
METHYL ACETATE	0.16	U	
METHYL CYCLOHEXANE	0.14	U	
METHYL TERT-BUTYL ETHER	0.22	U	
METHYLENE CHLORIDE	0.42	UJ	C
O-XYLENE	0.13	U	
STYRENE	0.11	U	
TETRACHLOROETHENE	0.12	U	
TOLUENE	0.11	U	
TOTAL XYLENES	0.37	U	
TRANS-1,2-DICHLOROETHENE	0.1	U	
TRANS-1,3-DICHLOROPROPENE	0.1	U	
TRICHLOROETHENE	7.9		
TRICHLOROFUOROMETHANE	0.1	U	
VINYL CHLORIDE	0.09	U	

nsample DUP-04
 samp_date 8/25/2005
 lab_id T4414-05
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF: 05MW141

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	20		
1,1,2,2-TETRACHLOROETHANE	0.09	U	
1,1,2-TRICHLOROETHANE	0.11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	U	
1,1-DICHLOROETHANE	14		
1,1-DICHLOROETHENE	23		
1,2,4-TRICHLOROBENZENE	0.08	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	U	
1,2-DIBROMOETHANE	0.12	U	
1,2-DICHLOROBENZENE	0.08	U	
1,2-DICHLOROETHANE	0.13	U	
1,2-DICHLOROPROPANE	0.15	U	
1,3-DICHLOROBENZENE	0.1	U	
1,4-DICHLOROBENZENE	0.12	U	
2-BUTANONE	0.23	UR	C
2-HEXANONE	0.57	U	
4-METHYL-2-PENTANONE	0.46	U	
ACETONE	1.6	U	
BENZENE	0.15	U	
BROMODICHLOROMETHANE	0.14	U	
BROMOFORM	0.09	U	
BROMOMETHANE	0.18	U	
CARBON DISULFIDE	0.11	U	
CARBON TETRACHLORIDE	0.16	U	
CHLOROBENZENE	0.11	U	
CHLORODIBROMOMETHANE	0.13	U	
CHLOROETHANE	0.46	U	
CHLOROFORM	0.16	U	
CHLOROMETHANE	0.08	U	
CIS-1,2-DICHLOROETHENE	2		
CIS-1,3-DICHLOROPROPENE	0.12	U	
CYCLOHEXANE	0.15	U	

PROJ_NO: 2192

SDG: T4414 MEDIA: WATER DATA FRACTION: OV

nsample DUP-04
 samp_date 8/25/2005
 lab_id T4414-05
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF: 05MW14I

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	0.12	U	
ETHYLBENZENE	0.11	U	
ISOPROPYLBENZENE	0.12	U	
M+P-XYLENES	0.24	U	
METHYL ACETATE	0.16	U	
METHYL CYCLOHEXANE	0.14	U	
METHYL TERT-BUTYL ETHER	0.22	U	
METHYLENE CHLORIDE	0.42	UJ	C
O-XYLENE	0.13	U	
STYRENE	0.11	U	
TETRACHLOROETHENE	0.12	U	
TOLUENE	0.11	U	
TOTAL XYLENES	0.37	U	
TRANS-1,2-DICHLOROETHENE	0.1	U	
TRANS-1,3-DICHLOROPROPENE	0.1	U	
TRICHLOROETHENE	7.5		
TRICHLORODIFLUOROMETHANE	0.1	U	
VINYL CHLORIDE	0.09	U	

nsample FB-082505
 samp_date 8/25/2005
 lab_id T4414-02
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF:

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.16	U	
1,1,2,2-TETRACHLOROETHANE	0.09	U	
1,1,2-TRICHLOROETHANE	0.11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	U	
1,1-DICHLOROETHANE	0.17	U	
1,1-DICHLOROETHENE	0.19	U	
1,2,4-TRICHLOROBENZENE	0.08	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	U	
1,2-DIBROMOETHANE	0.12	U	
1,2-DICHLOROBENZENE	0.08	U	
1,2-DICHLOROETHANE	0.13	U	
1,2-DICHLOROPROPANE	0.15	U	
1,3-DICHLOROBENZENE	0.1	U	
1,4-DICHLOROBENZENE	0.12	U	
2-BUTANONE	0.23	UR	C
2-HEXANONE	0.57	U	
4-METHYL-2-PENTANONE	0.46	U	
ACETONE	1.6	U	
BENZENE	0.15	U	
BROMODICHLOROMETHANE	0.14	U	
BROMOFORM	0.09	U	
BROMOMETHANE	0.18	U	
CARBON DISULFIDE	0.11	U	
CARBON TETRACHLORIDE	0.16	U	
CHLOROBENZENE	0.11	U	
CHLORODIBROMOMETHANE	0.13	U	
CHLOROETHANE	0.46	U	
CHLOROFORM	0.16	U	
CHLORMETHANE	0.08	U	
CIS-1,2-DICHLOROETHENE	0.09	U	
CIS-1,3-DICHLOROPROPENE	0.12	U	
CYCLOHEXANE	0.15	U	

nsample FB-082505
 samp_date 8/25/2005
 lab_id T4414-02
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF:

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	0.12	U	
ETHYLBENZENE	0.11	U	
ISOPROPYLBENZENE	0.12	U	
M+P-XYLENES	0.24	U	
METHYL ACETATE	0.16	U	
METHYL CYCLOHEXANE	0.14	U	
METHYL TERT-BUTYL ETHER	0.22	U	
METHYLENE CHLORIDE	33	J	C
O-XYLENE	0.13	U	
STYRENE	0.11	U	
TETRACHLOROETHENE	0.12	U	
TOLUENE	0.11	U	
TOTAL XYLENES	0.37	U	
TRANS-1,2-DICHLOROETHENE	0.1	U	
TRANS-1,3-DICHLOROPROPENE	0.1	U	
TRICHLOROETHENE	0.12	U	
TRICHLORODIFLUOROMETHANE	0.1	U	
VINYL CHLORIDE	0.09	U	

PROJ_NO: 2192

SDG: T4414 MEDIA: WATER DATA FRACTION: OV

nsample RB-082505
 samp_date 8/25/2005
 lab_id T4414-06
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF:

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.16	U	
1,1,2,2-TETRACHLOROETHANE	0.09	U	
1,1,2-TRICHLOROETHANE	0.11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	U	
1,1-DICHLOROETHANE	0.17	U	
1,1-DICHLOROETHENE	0.19	U	
1,2,4-TRICHLOROBENZENE	0.08	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	U	
1,2-DIBROMOETHANE	0.12	U	
1,2-DICHLOROBENZENE	0.08	U	
1,2-DICHLOROETHANE	0.13	U	
1,2-DICHLOROPROPANE	0.15	U	
1,3-DICHLOROBENZENE	0.1	U	
1,4-DICHLOROBENZENE	0.12	U	
2-BUTANONE	0.23	UR	C
2-HEXANONE	0.57	U	
4-METHYL-2-PENTANONE	0.46	U	
ACETONE	1.6	U	
BENZENE	0.15	U	
BROMODICHLOROMETHANE	0.14	U	
BROMOFORM	0.09	U	
BROMOMETHANE	0.18	U	
CARBON DISULFIDE	0.11	U	
CARBON TETRACHLORIDE	0.16	U	
CHLOROBENZENE	0.11	U	
CHLORODIBROMOMETHANE	0.13	U	
CHLOROETHANE	0.46	U	
CHLOROFORM	0.16	U	
CHLOROMETHANE	0.08	U	
CIS-1,2-DICHLOROETHENE	0.09	U	
CIS-1,3-DICHLOROPROPENE	0.12	U	
CYCLOHEXANE	0.15	U	

nsample RB-082505
 samp_date 8/25/2005
 lab_id T4414-06
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF:

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	0.12	U	
ETHYLBENZENE	0.11	U	
ISOPROPYLBENZENE	0.12	U	
M+p-XYLENES	0.24	U	
METHYL ACETATE	0.16	U	
METHYL CYCLOHEXANE	0.14	U	
METHYL TERT-BUTYL ETHER	0.22	U	
METHYLENE CHLORIDE	0.42	UJ	C
O-XYLENE	0.13	U	
STYRENE	0.11	U	
TETRACHLOROETHENE	0.12	U	
TOLUENE	0.11	U	
TOTAL XYLENES	0.37	U	
TRANS-1,2-DICHLOROETHENE	0.1	U	
TRANS-1,3-DICHLOROPROPENE	0.1	U	
TRICHLOROETHENE	0.12	U	
TRICHLOROFUOROMETHANE	0.1	U	
VINYL CHLORIDE	0.09	U	

nsample TB-082505
 samp_date 8/25/2005
 lab_id T4414-01
 qc_type NM
 units UG/L
 Pct_Solids 0.0
 DUP_OF:

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.16	U	
1,1,2,2-TETRACHLOROETHANE	0.09	U	
1,1,2-TRICHLOROETHANE	0.11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	U	
1,1-DICHLOROETHANE	0.17	U	
1,1-DICHLOROETHENE	0.19	U	
1,2,4-TRICHLOROBENZENE	0.08	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	U	
1,2-DIBROMOETHANE	0.12	U	
1,2-DICHLOROBENZENE	0.08	U	
1,2-DICHLOROETHANE	0.13	U	
1,2-DICHLOROPROPANE	0.15	U	
1,3-DICHLOROBENZENE	0.1	U	
1,4-DICHLOROBENZENE	0.12	U	
2-BUTANONE	0.23	UR	C
2-HEXANONE	0.57	U	
4-METHYL-2-PENTANONE	0.46	U	
ACETONE	1.6	U	
BENZENE	0.15	U	
BROMODICHLOROMETHANE	0.14	U	
BROMOFORM	0.09	U	
BROMOMETHANE	0.18	U	
CARBON DISULFIDE	0.11	U	
CARBON TETRACHLORIDE	0.16	U	
CHLOROBENZENE	0.11	U	
CHLORODIBROMOMETHANE	0.13	U	
CHLOROETHANE	0.46	U	
CHLOROFORM	0.16	U	
CHLOROMETHANE	0.08	U	
CIS-1,2-DICHLOROETHENE	0.09	U	
CIS-1,3-DICHLOROPROPENE	0.12	U	
CYCLOHEXANE	0.15	U	

PROJ_NO: 2192

SDG: T4414 MEDIA: WATER DATA FRACTION: OV

nsample TB-082505
samp_date 8/25/2005
lab_id T4414-01
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val Qual.	Qual Code
DICHLORODIFLUOROMETHANE	0.12	U	
ETHYLBENZENE	0.11	U	
ISOPROPYLBENZENE	0.12	U	
M+P-XYLENES	0.24	U	
METHYL ACETATE	0.16	U	
METHYL CYCLOHEXANE	0.14	U	
METHYL TERT-BUTYL ETHER	0.22	U	
METHYLENE CHLORIDE	1.2	J	C
O-XYLENE	0.13	U	
STYRENE	0.11	U	
TETRACHLOROETHENE	0.12	U	
TOLUENE	0.11	U	
TOTAL XYLENES	0.37	U	
TRANS-1,2-DICHLOROETHENE	0.1	U	
TRANS-1,3-DICHLOROPROPENE	0.1	U	
TRICHLOROETHENE	0.12	U	
TRICHLOROFLUOROMETHANE	0.1	U	
VINYL CHLORIDE	0.09	U	

PROJ_NO: 2192

SDG: T4414 MEDIA: WATER DATA FRACTION: OVG

nsample 05MW12S
samp_date 8/25/2005
lab_id T4414-03
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample 05MW14I
samp_date 8/25/2005
lab_id T4414-04
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val Qual	Qual Code
ETHANE	5	U	
ETHENE	5	U	
METHANE	5	U	

Parameter	Result	Val Qual	Qual Code
ETHANE	5	U	
ETHENE	5	U	
METHANE	5	U	

PROJ_NO: 2192

SDG: T4414 MEDIA: WATER DATA FRACTION: OS

nsample	05MW12S	nsample	05MW14I	nsample	DUP-04
samp_date	8/25/2005	samp_date	8/25/2005	samp_date	8/25/2005
lab_id	T4414-03	lab_id	T4414-04	lab_id	T4414-05
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:	DUP-04	DUP_OF:	05MW14I

Parameter	Result	Val Qual	Qual Code
1,4-DIOXANE	2	U	

Parameter	Result	Val Qual	Qual Code
1,4-DIOXANE	2.1	U	

Parameter	Result	Val Qual	Qual Code
1,4-DIOXANE	2	U	

PROJ_NO: 2192

SDG: T4414 MEDIA: WATER DATA FRACTION: OS

nsample	FB-082505	nsample	RB-082505
samp_date	8/25/2005	samp_date	8/25/2005
lab_id	T4414-02	lab_id	T4414-06
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,4-DIOXANE	2	U	

Parameter	Result	Val Qual	Qual Code
1,4-DIOXANE	2	U	

Qualifier Codes:

- a = Lab Blank Contamination
- b = Field Blank Contamination
- c = Calibration (i.e., %RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
- d = MS/MSD Noncompliance
- e = LSC/LSCD Noncompliance
- f = Laboratory Duplicate Imprecision
- g = Field Duplicate Imprecision
- h = Holding Time Exceedance
- i = ICP Serial Dilution Noncompliance
- j = GFAA PDS – GFAA MSA's r<0.995 (correlation coefficient)
- k = ICP Interference – include ICSAB %Rs
- l = Instrument Calibration Range Exceedance
- m = Sample Preservation
- n = Internal Standard Noncompliance
- o = Poor Instrument Performance (i.e. baseline drifting)
- p = Uncertainty Near Detection Limit (<2 x IDL for inorganics and < CRQL for organics)
- q = Other Problems (can encompass of number of issues)
- r = Surrogates Recovery Noncompliance
- s = Pesticide/PCB Resolution
- t = % Breakdown Noncompliance for DDT and Endrin
- u = Pesticide/PCB % Difference Between Columns for Positive Results
- v = Non-linear Calibrations, Tuning r <0.995 (correlation coefficient)

Data Qualifier Key:

- B
 - Positive result is considered to be an artifact of blank contamination and should not be considered present.
- J
 - Value is considered estimated due to exceedance of technical quality control or because result is less than the Contract Required Quantitation Limit (CRQL).
- L
 - Positive result is considered biased low due to exceedance of technical quality control criteria.
- R
 - Positive result is considered unusable due to exceedance of technical quality control criteria.
- U
 - Value is a non-detected result as reported by the laboratory.
- UJ
 - Non-detected result is considered estimated due to exceedance of technical quality control criteria.
- UL
 - Non-detected result is considered biased low due to exceedance of technical quality control criteria.

APPENDIX B

Results as Reported by the Laboratory

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	05MW12S	SDG No.:	T4414
Lab Sample ID:	T4414-03	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG090325.D	1	9/4/2005	VG082905

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.09	U	1.0	0.09	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	3.0		1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	0.42	U	1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	45	E	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	7.2		1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	2.3		1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	3.7		1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.65	J	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.80	J	1.0	0.11	ug/L

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	05MW12S	SDG No.:	T4414
Lab Sample ID:	T4414-03	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG090325.D	1	9/4/2005	VG082905

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	1.2		1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.61	J	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.61	J	2.0	0.37	ug/L

SURROGATES

17060-07-0	1,2-Dichloroethane-d4	9.74	97 %	72 - 119	SPK: 10
1868-53-7	Dibromofluoromethane	10.23	102 %	85 - 115	SPK: 10
2037-26-5	Toluene-d8	10.09	101 %	81 - 120	SPK: 10
460-00-4	4-Bromofluorobenzene	12.06	121 %	76 - 119	SPK: 10

INTERNAL STANDARDS

363-72-4	Pentafluorobenzene	528489	3.83
540-36-3	1,4-Difluorobenzene	641960	4.28
3114-55-4	Chlorobenzene-d5	629512	7.33
3855-82-1	1,4-Dichlorobenzene-d4	458284	9.61

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	05MW12SDL	SDG No.:	T4414
Lab Sample ID:	T4414-03DL	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF090716.D	10	9/7/2005	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	1.2	UD	10	1.2	ug/L
74-87-3	Chloromethane	0.80	UD	10	0.80	ug/L
75-01-4	Vinyl chloride	0.85	UD	10	0.85	ug/L
74-83-9	Bromomethane	1.8	UD	10	1.8	ug/L
75-00-3	Chloroethane	4.6	UD	10	4.6	ug/L
75-69-4	Trichlorofluoromethane	1.0	UD	10	1.0	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1.3	UD	10	1.3	ug/L
75-35-4	1,1-Dichloroethene	1.9	UD	10	1.9	ug/L
67-64-1	Acetone	16	UD	50	16	ug/L
75-15-0	Carbon disulfide	1.1	UD	10	1.1	ug/L
1634-04-4	Methyl tert-butyl Ether	2.2	UD	10	2.2	ug/L
79-20-9	Methyl Acetate	1.6	UD	10	1.6	ug/L
75-09-2	Methylene Chloride	4.2	UD	10	4.2	ug/L
156-60-5	trans-1,2-Dichloroethene	0.99	UD	10	0.99	ug/L
75-34-3	1,1-Dichloroethane	27	D	10	1.7	ug/L
110-82-7	Cyclohexane	1.5	UD	10	1.5	ug/L
78-93-3	2-Butanone	2.3	UD	50	2.3	ug/L
56-23-5	Carbon Tetrachloride	1.6	UD	10	1.6	ug/L
156-59-2	cis-1,2-Dichloroethene	4.4	JD	10	0.92	ug/L
67-66-3	Chloroform	1.6	UD	10	1.6	ug/L
71-55-6	1,1,1-Trichloroethane	1.6	UD	10	1.6	ug/L
108-87-2	Methylcyclohexane	1.4	UD	10	1.4	ug/L
71-43-2	Benzene	1.5	UD	10	1.5	ug/L
107-06-2	1,2-Dichloroethane	1.3	UD	10	1.3	ug/L
79-01-6	Trichloroethene	1.2	UD	10	1.2	ug/L
78-87-5	1,2-Dichloropropane	1.5	UD	10	1.5	ug/L
75-27-4	Bromodichloromethane	1.4	UD	10	1.4	ug/L
108-10-1	4-Methyl-2-Pentanone	4.6	UD	50	4.6	ug/L
108-88-3	Toluene	1.1	UD	10	1.1	ug/L
10061-02-6	t-1,3-Dichloropropene	0.96	UD	10	0.96	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.2	UD	10	1.2	ug/L
79-00-5	1,1,2-Trichloroethane	1.1	UD	10	1.1	ug/L

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	05MW12SDL	SDG No.:	T4414
Lab Sample ID:	T4414-03DL	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VF090716.D	10	9/7/2005	VF082005

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	5.8	UD	50	5.8	ug/L
124-48-1	Dibromochloromethane	1.3	UD	10	1.3	ug/L
106-93-4	1,2-Dibromoethane	1.2	UD	10	1.2	ug/L
127-18-4	Tetrachloroethene	1.2	UD	10	1.2	ug/L
108-90-7	Chlorobenzene	1.1	UD	10	1.1	ug/L
100-41-4	Ethyl Benzene	1.1	UD	10	1.1	ug/L
126777-61-2	m&p-Xylenes	2.4	UD	10	2.4	ug/L
95-47-6	o-Xylene	1.3	UD	10	1.3	ug/L
100-42-5	Styrene	1.1	UD	10	1.1	ug/L
75-25-2	Bromoform	0.94	UD	10	0.94	ug/L
98-82-8	Isopropylbenzene	1.2	UD	10	1.2	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.93	UD	10	0.93	ug/L
541-73-1	1,3-Dichlorobenzene	0.97	UD	10	0.97	ug/L
106-46-7	1,4-Dichlorobenzene	1.2	UD	10	1.2	ug/L
95-50-1	1,2-Dichlorobenzene	0.83	UD	10	0.83	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	UD	10	2.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.83	UD	10	0.83	ug/L
1330-20-7	Total Xylenes	3.7	UD	20	3.7	ug/L

SURROGATES

17060-07-0	1,2-Dichloroethane-d4	9.81	98 %	72 - 119	SPK: 10
1868-53-7	Dibromofluoromethane	9.64	96 %	85 - 115	SPK: 10
2037-26-5	Toluene-d8	10.01	100 %	81 - 120	SPK: 10
460-00-4	4-Bromofluorobenzene	10.02	100 %	76 - 119	SPK: 10

INTERNAL STANDARDS

363-72-4	Pentafluorobenzene	3111171	7.96
540-36-3	1,4-Difluorobenzene	4615228	9.28
3114-55-4	Chlorobenzene-d5	3716168	15.22
3855-82-1	1,4-Dichlorobenzene-d4	1874955	20.57

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	05MW14I	SDG No.:	T4414
Lab Sample ID:	T4414-04	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG090326.D	1	9/4/2005	VG082905

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.09	U	1.0	0.09	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	24		1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	0.42	U	1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	13		1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	2.0		1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	20		1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	7.9		1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

U = Not Detected

RL = Reporting Limit

MDL = Method Detection Limit

E = Value Exceeds Calibration Range

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	05MW14I	SDG No.:	T4414
Lab Sample ID:	T4414-04	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG090326.D	1	9/4/2005	VG082905

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	0.12	U	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L

SURROGATES

17060-07-0	1,2-Dichloroethane-d4	9.65	97 %	72 - 119	SPK: 10
1868-53-7	Dibromofluoromethane	10.11	101 %	85 - 115	SPK: 10
2037-26-5	Toluene-d8	10.77	108 %	81 - 120	SPK: 10
460-00-4	4-Bromofluorobenzene	11.4	114 %	76 - 119	SPK: 10

INTERNAL STANDARDS

363-72-4	Pentafluorobenzene	490353	3.83
540-36-3	1,4-Difluorobenzene	613282	4.28
3114-55-4	Chlorobenzene-d5	577848	7.33
3855-82-1	1,4-Dichlorobenzene-d4	414778	9.61

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	DUP-04	SDG No.:	T4414
Lab Sample ID:	T4414-05	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG090327.D	1	9/4/2005	VG082905

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.09	U	1.0	0.09	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	23		1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	0.42	U	1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	14		1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	2.0		1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	20		1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	7.5		1.0	0.12	ug/L
78-87-5	1,2-Dichloroproppane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	DUP-04	SDG No.:	T4414
Lab Sample ID:	T4414-05	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG090327.D	1	9/4/2005	VG082905

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	0.12	U	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L

SURROGATES

17060-07-0	1,2-Dichloroethane-d4	10.74	107 %	72 - 119	SPK: 10
1868-53-7	Dibromofluoromethane	9.75	98 %	85 - 115	SPK: 10
2037-26-5	Toluene-d8	9.52	95 %	81 - 120	SPK: 10
460-00-4	4-Bromofluorobenzene	10.82	108 %	76 - 119	SPK: 10

INTERNAL STANDARDS

363-72-4	Pentafluorobenzene	498843	3.83
540-36-3	1,4-Difluorobenzene	675162	4.28
3114-55-4	Chlorobenzene-d5	628282	7.32
3855-82-1	1,4-Dichlorobenzene-d4	457262	9.61

U = Not Detected

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RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	FB-082505	SDG No.:	T4414
Lab Sample ID:	T4414-02	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG090324.D	1	9/4/2005	VG082905

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.09	U	1.0	0.09	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	33		1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	0.09	U	1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	0.12	U	1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	FB-082505	SDG No.:	T4414
Lab Sample ID:	T4414-02	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG090324.D	1	9/4/2005	VG082905

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	0.12	U	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L

SURROGATES

17060-07-0	1,2-Dichloroethane-d4	9.86	99 %	72 - 119	SPK: 10
1868-53-7	Dibromofluoromethane	10.45	105 %	85 - 115	SPK: 10
2037-26-5	Toluene-d8	9.74	97 %	81 - 120	SPK: 10
460-00-4	4-Bromofluorobenzene	11.17	112 %	76 - 119	SPK: 10

INTERNAL STANDARDS

363-72-4	Pentafluorobenzene	490037	3.83
540-36-3	1,4-Difluorobenzene	633150	4.28
3114-55-4	Chlorobenzene-d5	618327	7.32
3855-82-1	1,4-Dichlorobenzene-d4	417463	9.60

U = Not Detected

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MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	RB-082505	SDG No.:	T4414
Lab Sample ID:	T4414-06	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG090328.D	1	9/4/2005	VG082905

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.09	U	1.0	0.09	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	0.42	U	1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	0.09	U	1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	0.12	U	1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

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J = Estimated Value

RL = Reporting Limit

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MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range



284 Sheffield Street, Mountainside, NJ 07042 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	RB-082505	SDG No.:	T4414
Lab Sample ID:	T4414-06	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG090328.D	1	9/4/2005	VG082905

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	0.12	U	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L

SURROGATES

17060-07-0	1,2-Dichloroethane-d4	10.39	104 %	72 - 119	SPK: 10
1868-53-7	Dibromofluoromethane	10.21	102 %	85 - 115	SPK: 10
2037-26-5	Toluene-d8	9.66	97 %	81 - 120	SPK: 10
460-00-4	4-Bromofluorobenzene	11.2	112 %	76 - 119	SPK: 10

INTERNAL STANDARDS

363-72-4	Pentafluorobenzene	483548	3.83
540-36-3	1,4-Difluorobenzene	644499	4.28
3114-55-4	Chlorobenzene-d5	591569	7.33
3855-82-1	1,4-Dichlorobenzene-d4	428027	9.61

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	TB-082505	SDG No.:	T4414
Lab Sample ID:	T4414-01	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG090323.D	1	9/3/2005	VG082905

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.09	U	1.0	0.09	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	1.2		1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	0.09	U	1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	0.12	U	1.0	0.12	ug/L
78-87-5	1,2-Dichloroproppane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	TB-082505	SDG No.:	T4414
Lab Sample ID:	T4414-01	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG090323.D	1	9/3/2005	VG082905

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	0.12	U	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L

SURROGATES

17060-07-0	1,2-Dichloroethane-d4	9.86	99 %	72 - 119	SPK: 10
1868-53-7	Dibromofluoromethane	10.45	105 %	85 - 115	SPK: 10
2037-26-5	Toluene-d8	10.52	105 %	81 - 120	SPK: 10
460-00-4	4-Bromofluorobenzene	10.95	110 %	76 - 119	SPK: 10

INTERNAL STANDARDS

363-72-4	Pentafluorobenzene	513491	3.83
540-36-3	1,4-Difluorobenzene	638484	4.28
3114-55-4	Chlorobenzene-d5	618867	7.32
3855-82-1	1,4-Dichlorobenzene-d4	435462	9.61

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

CHEMTECH

GC Volatiles
DETECTOR: FID

Tabulated Analytical Results
Gases

CLIENT: Tetra Tech NUS, Inc.
PROJECT: NAS JRB Turner
SAMPLE ID: 05MW12S
LAB ID: T4414-03
FILENAME: F:\DATA3\083105.RAW
LAB PROJECT: T4414

MATRIX: AQUEOUS
DATE ANALYZED: 8/31/05
ANALYST: PHM
DILUTION: 1

CAS #	COMPOUNDS	RESULTS (ug/l)	QUALIFIER	RDL (ug/l)
74-82-8	METHANE	< 5.0	U	5.0
74-85-1	ETHYLENE	< 5.0	U	5.0
74-84-0	ETHANE	< 5.0	U	5.0

MDL = METHOD DETECTION LIMIT
U = UNDETECTED BELOW MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

Tabulated Analytical Results
Gases

CLIENT: Tetra Tech NUS, Inc.
PROJECT: NAS JRB Turner
SAMPLE ID: 05MW14I
LAB ID: T4414-04
FILENAME: F:\DATA3\083106.RAW
LAB PROJECT: T4414

MATRIX: AQUEOUS
DATE ANALYZED: 8/31/05
ANALYST: PHM
DILUTION: 1

CAS #	COMPOUNDS	RESULTS (ug/l)	QUALIFIER	RDL (ug/l)
74-82-8	METHANE	< 5.0	U	5.0
74-85-1	ETHYLENE	< 5.0	U	5.0
74-84-0	ETHANE	< 5.0	U	5.0

MDL = METHOD DETECTION LIMIT

U = UNDETECTED BELOW MDL

B = PRESENT IN THE ASSOCIATED BLANK

E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW

D = DILUTION

....
....
....

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	05MW12S	SDG No.:	T4414
Lab Sample ID:	T4414-03	Matrix:	WATER
Analytical Method:	dioxane 8270	% Moisture:	100
Sample Wt/Wt:	980.0 mL	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID			
BA020832.D	1	8/29/2005	9/3/2005	BA082305			

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
123-91-1	1,4-Dioxane	2.0	U	2.0	2.0	ug/L
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	92856	7.47			
1146-65-2	Naphthalene-d8	227647	9.87			
15067-26-2	Acenaphthene-d10	155070	13.36			
1517-22-2	Phenanthrene-d10	259444	16.35			
1719-03-5	Chrysene-d12	283876	21.69			
1520-96-3	Perylene-d12	330459	25.01			

U = Not Detected

RL = Reporting Limit

MDL = Method Detection Limit

E = Value Exceeds Calibration Range

J = Estimated Value

B = Analyte Found In Associated Method Blank

N = Presumptive Evidence of a Compound

Report of Analysis

Client: Tetra Tech NUS, Inc. Date Collected: 8/25/2005
 Project: NAS JRB Willow Grove Date Received: 8/26/2005
 Client Sample ID: 05MW14I SDG No.: T4414
 Lab Sample ID: T4414-04 Matrix: WATER
 Analytical Method: ~~dioxane~~ 8270 % Moisture: 100
 Sample Wt/Wt: 960.0 mL Extract Vol: 1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID			
BA020833.D	1	8/29/2005	9/3/2005	BA082305			

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
123-91-1	1,4-Dioxane	2.1	U	2.1	2.1	ug/L
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	89838	7.46			
1146-65-2	Naphthalene-d8	228928	9.87			
15067-26-2	Acenaphthene-d10	148784	13.37			
1517-22-2	Phenanthrene-d10	263652	16.35			
1719-03-5	Chrysene-d12	282694	21.69			
1520-96-3	Perylene-d12	340408	25.00			

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found In Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	DUP-04	SDG No.:	T4414
Lab Sample ID:	T4414-05	Matrix:	WATER
Analytical Method:	dioxane-8270	% Moisture:	100
Sample Wt/Wt:	980.0 mL	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BA020834.D	1	8/29/2005	9/3/2005	BA082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
123-91-1	1,4-Dioxane	2.0	U	2.0	2.0	ug/L
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	95644	7.47			
1146-65-2	Naphthalene-d8	230810	9.87			
15067-26-2	Acenaphthene-d10	155137	13.37			
1517-22-2	Phenanthrene-d10	279411	16.35			
1719-03-5	Chrysene-d12	299554	21.68			
1520-96-3	Perylene-d12	354718	25.01			

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found In Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	FB-082505	SDG No.:	T4414
Lab Sample ID:	T4414-02	Matrix:	WATER
Analytical Method:	dioxane 8270	% Moisture:	100
Sample Wt/Wt:	980.0 mL	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID			
BA020831.D	1	8/29/2005	9/3/2005	BA082305			

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
123-91-1	1,4-Dioxane	2.0	U	2.0	2.0	ug/L
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	106947	7.47			
1146-65-2	Naphthalene-d8	257409	9.87			
15067-26-2	Acenaphthene-d10	174772	13.36			
1517-22-2	Phenanthrene-d10	302679	16.36			
1719-03-5	Chrysene-d12	323271	21.69			
1520-96-3	Perylene-d12	373410	25.01			

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found In Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range



284 Sheffield Street, Mountainside, NJ 07042 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/25/2005
Project:	NAS JRB Willow Grove	Date Received:	8/26/2005
Client Sample ID:	RB-082505	SDG No.:	T4414
Lab Sample ID:	T4414-06	Matrix:	WATER
Analytical Method:	dioxane 8270	% Moisture:	100
Sample Wt/Wt:	980.0 mL	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID			
BA020839.D	1	8/29/2005	9/3/2005	BA082305			

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
123-91-1	1,4-Dioxane	2.0	U	2.0	2.0	ug/L
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	102792	7.46			
1146-65-2	Naphthalene-d8	264037	9.87			
15067-26-2	Acenaphthene-d10	174682	13.36			
1517-22-2	Phenanthrene-d10	308456	16.34			
1719-03-5	Chrysene-d12	333775	21.69			
1520-96-3	Perylene-d12	355699	24.99			

U = Not Detected

J = Estimated Value

RL = Reporting Limit

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MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

APPENDIX C

Support Documentation



CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO.

T 4414

COC Numb

054192

CLIENT INFORMATION			CLIENT PROJECT INFORMATION			CLIENT BILLING INFORMATION												
REPORT TO BE SENT TO:			PROJECT NAME: NasJRB Willow Grove			BILL TO: Tetra Tech NUS PO#:												
COMPANY: Tetra Tech NUS			PROJECT NO.: 2192 LOCATION: Willow Grove			Foster Plaza 7 ADDRESS: 661 Anderson Dr.												
ADDRESS: 600 Clark Ave.			PROJECT MANAGER: Russ Turner			CITY: Pittsburgh STATE: PA ZIP: 15220												
CITY: King of Prussia STATE: PA ZIP: 19406			e-mail: rturner@tt-nus.com			ATTENTION: PHONE:												
ATTENTION: Russ Turner																		
PHONE: 610 491 9688 FAX: 610 491 9645				DATA TURNAROUND INFORMATION			ANALYSIS											
FAX: _____ DAYS				DATA DELIVERABLE INFORMATION														
HARD COPY: _____ DAYS				<input type="checkbox"/> RESULTS ONLY <input type="checkbox"/> USEPA CLP <input type="checkbox"/> RESULTS + QC <input type="checkbox"/> New York State ASP "B" <input type="checkbox"/> New Jersey REDUCED <input type="checkbox"/> New York State ASP "A" <input type="checkbox"/> New Jersey CLP <input type="checkbox"/> Other _____ <input type="checkbox"/> EDD FORMAT _____														
EDD: _____ DAYS																		
* TO BE APPROVED BY CHEMTECH STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS																		
CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES	PRESERVATIVES									COMMENTS	
			COMP	GRAB	DATE	TIME		HCl	ICE	ICE	HCl	BSO4						
1.	TB-082505	AQ	X	8/25/05	0700	3	3										← Specify Preservatives. A-HCl B-HNO3 C-H2SO4 D-NaOH E-ICE F-Other	
2.	FB-082505	AQ	X	8/25/05	0750	4	3	1									trip blank supplied by laboratory	
3.	05 MW 125	GW	X	8/25/05	1215	8	3	1	1	2	1						Field Blank	
4.	05 MW 14 I	GW	X	8/25/05	1500	8	3	1	1	2	1							
5.	DUP-04	GW	X	8/25/05	1000	4	3	1	X	X	X							
6.	RB-082505	AQ	X	8/25/05	0800	4	3	1									Rinsate Blank	
7.																		
8.																		
9.																		
10.																		
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY																		
RELINQUISHED BY SAMPLER: 1. Donald Whalen	DATE/TIME: 8/25/05 1900	RECEIVED BY: 1.	Conditions of bottles or coolers at receipt: <input type="checkbox"/> Compliant <input type="checkbox"/> Non Compliant											Cooler Temp. <u>40C</u>				
RElinquished By: 2.	DATE/TIME: RECEIVED BY: 2.	MeOH extraction requires an additional 4 oz jar for percent solid.											Ice in Cooler?: <u>YES</u>					
REIED BY: 3. FedEx	DATE/TIME: 9/20 8/26/05	RECEIVED FOR LAB BY: 3. St. John	Comments: Shipped by Fed Ex airbill No. 845532662994											Shipment Complete: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				
64	Page <u>1</u> of <u>1</u>	SHIPPED VIA: CLIENT: <input type="checkbox"/> HAND DELIVERED <input checked="" type="checkbox"/> OVERNIGHT																
		CHEMTECH: <input type="checkbox"/> PICKED UP <input type="checkbox"/> OVERNIGHT																

CASE NARRATIVE

Tetra Tech NUS, Inc.

Project Name: NAS JRB Willow Grove

Project # N/A

Chemtech Project # T4414

A. Number of Samples and Date of Receipt:

6 Water samples were received on 8/26/05.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Anions, Gases methane, ethane, ethene, Redox Potential, SVOCMS Group1, Total Organic Carbon, and VOCMS Group1. This data package contains results for VOCMS Group1.

C. Analytical Techniques:

The analysis performed on instrument MSVOA F were done using GC column RTX624, which is 75 meters, 0.53 ID, 3.0 df, Restek Cat. #10974. The Trap was supplied by Supelco, VOCARB 3000, Tekmar 2000 Concentrator. The analysis performed on instrument MSVOA G were done using GC column RTX624, which is 20 meters, 0.18 ID, 1.0 df, Restek Cat. #40924. The Trap was supplied by OI Analytical, OI #10 Trap , OI Eclipse 4660 Concentrator.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria except for T4324-09MS, T4324-10MSD and 05MW12S.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The MS recoveries met the requirements for all compounds except for Benzene and Trichloroethene.

The MSD recoveries met the acceptable requirements except for 1,1-Dichloroethene, Benzene and Trichloroethene.

The RPD recoveries met criteria except for 1,1-Dichloroethene.

The Blank Spike met requirements for all samples.

The Blank analysis indicated presence of Methylene Chloride due to possible lab contamination.

The Calibration met the requirements.

The Tuning criteria met requirements.

E. Additional Comments:

Sample 05MW12 was diluted due to high concentrations.

CASE NARRATIVE**Tetra Tech NUS, Inc.****Project Name: NAS JRB Willow Grove****Project # N/A****Chemtech Project # T4414****A. Number of Samples and Date of Receipt:**

6 Water samples were received on 8/26/05.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Anions, Gases methane, ethane, ethene, Redox Potential, SVOCMS Group1, Total Organic Carbon, and VOCMS Group1. This data package contains results for Gases methane, ethane, ethene.

C. Analytical Techniques:

The analysis performed on instrument GCVOA 3 were done using GC column RTX-UPLOT, which is 30 meters, 0.32mm ID, Restek Cat. #19724. The Purge Trap was supplied by Supelco, VOCARB 3000, Tekmar 3000.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The MS recoveries met the requirements for all compounds.

The MSD recoveries met the acceptable requirements.

The RPD recoveries did not meet criteria.

The Blank Spike met requirements for all samples.

The Blank analysis did not indicate the presence of lab contamination.

The Calibration met the requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature _____

Name: Krupa Dubey

Date: _____

Title: QA/QC



CASE NARRATIVE

Tetra Tech NUS, Inc.

Project Name: NAS JRB Willow Grove

Project # N/A

Chemtech Project # T4414

A. Number of Samples and Date of Receipt:

6 Water samples were received on 8/26/05.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Anions, Gases methane, ethane, ethene, Redox Potential, SVOCMS Group1, Total Organic Carbon, and VOCMS Group1. This data package contains results for SVOCMS Group1.

C. Analytical Techniques:

The samples were analyzed on instruments MSBNA E using GC Column RTX-5 SILMS which is 30 meters, 0.32mm ID, 0.5 um df, Catalog # 12739.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The Blank analysis did not indicate the presence of lab contamination.

The Calibration met the requirements.

The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature

Name: Krupa Dubey

Date:

Title: QA/QC

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Chemtech Contract: TETR04
 Lab Code: CHEM Case No.: T4414 SAS No.: T4414 SDG No.: T4414
 Instrument ID: MSVOAG Calibration Date(s): 8/29/2005 8/29/2005
 Heated Purge: (Y/N) N Calibration Time(s): 11:05 13:54
 GC Column: RTX624 ID: 0.18 (mm)

COMPOUND	RRF001	RRF004	RRF010	RRF020	RRF040	RRF	% RSD
Dichlorodifluoromethane	0.659	0.678	0.775	0.760	0.761	0.727	7.4
Chloromethane *	0.349	0.386	0.393	0.381	0.292	0.360	11.6
Vinyl Chloride *	0.266	0.310	0.355	0.334	0.346	0.322	11.1
Bromomethane	0.326	0.331	0.356	0.369	0.444	0.365	13.0
Chloroethane	0.190	0.201	0.227	0.211	0.287	0.223	17.1
Trichlorofluoromethane	1.132	1.072	1.308	1.256	1.286	1.211	8.5
1,1,2-Trichlorotrifluor	0.551	0.704	0.739	0.821	0.825	0.728	15.4
1,1-Dichloroethene *	0.277	0.403	0.430	0.447	0.529	0.417	21.9
Acetone	0.047	0.051	0.047	0.057	0.055	0.051	9.0
Carbon Disulfide	0.563	0.681	0.765	0.850	1.076	0.787	24.6
Methyl tert-butyl Ether	0.935	1.143	1.259	1.264	1.298	1.180	12.6
Methyl Acetate	0.119	0.102	0.128	0.126	0.170	0.129	19.5
Methylene Chloride	1.164	0.484	0.505	0.370	0.374	0.579	57.4
trans-1,2-Dichloroethen	0.319	0.472	0.492	0.514	0.601	0.480	21.3
1,1-Dichloroethane *	0.895	1.158	1.221	1.243	1.283	1.160	13.4
Cyclohexane	0.410	0.585	0.600	0.586	0.627	0.562	15.4
2-Butanone	0.038	0.048	0.049	0.053	0.055	0.049	13.5
Carbon Tetrachloride *	1.189	1.470	1.538	1.499	1.519	1.443	10.0
cis-1,2-Dichloroethene	0.349	0.481	0.511	0.510	0.562	0.483	16.6
Chloroform *	1.255	1.677	1.795	1.825	1.841	1.679	14.6
1,1,1-Trichloroethane *	1.363	1.710	1.790	1.624	1.789	1.655	10.7
Methylcyclohexane	0.333	0.529	0.569	0.569	0.621	0.524	21.3
Benzene *	0.881	1.183	1.248	1.275	1.358	1.189	15.4
1,2-Dichloroethane *	0.729	0.934	0.969	0.994	0.982	0.922	11.9
Trichloroethene *	0.373	0.518	0.545	0.571	0.633	0.528	18.3
1,2-Dichloropropane *	0.267	0.290	0.316	0.313	0.318	0.301	7.3
Bromodichloromethane *	0.807	0.948	1.001	0.987	0.989	0.946	8.5
4-Methyl-2-Pentanone	0.137	0.168	0.164	0.180	0.173	0.164	10.0
Toluene *	0.580	0.718	0.744	0.763	0.771	0.715	10.9
t-1,3-Dichloropropene *	0.576	0.723	0.772	0.775	0.753	0.720	11.5
cis-1,3-Dichloropropene *	0.531	0.693	0.742	0.728	0.709	0.681	12.6
1,1,2-Trichloroethane *	0.145	0.185	0.196	0.200	0.202	0.186	12.7
2-Hexanone	0.119	0.130	0.134	0.131	0.130	0.129	4.4
Dibromochloromethane *	0.377	0.477	0.533	0.544	0.520	0.490	13.9
1,2-Dibromoethane	0.192	0.254	0.277	0.285	0.283	0.258	15.1
Tetrachloroethene *	0.481	0.751	0.745	0.910	0.985	0.774	25.0
Chlorobenzene *	0.844	1.017	1.079	1.049	1.134	1.025	10.7

* Compounds with required minimum RRF and maximum %RSD values.
 All other compounds must meet a minimum RRF of 0.010.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name:	Chemtech	Contract:	TETR04				
Lab Code:	CHEM	Case No.:	T4414	SAS No.:	T4414	SDG No.:	T4414
Instrument ID:	MSVOAG			Calibration Date/Time:	9/3/2005	21:49	
Lab File ID:	VG090320.D			Init. Calib. Date(s):	8/29/2005	8/29/2005	
Heated Purge: (Y/N)	N			Init. Calib. Time(s):	11:05	13:54	
GC Column:	RTX624	ID:	0.18 (mm)				

COMPOUND	RRF	RRF010	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.727	0.453		-37.7	
Chloromethane	0.360	0.268	0.100	-25.6	
Vinyl Chloride	0.322	0.308		-4.3	20.0
Bromomethane	0.365	0.374		2.5	
Chloroethane	0.223	0.214		-4.0	
Trichlorofluoromethane	1.211	1.005		-17.0	
1,1,2-Trichlorotrifluoroethane	0.728	0.519		-28.7	
1,1-Dichloroethene	0.417	0.455		9.1	20.0
Acetone	0.051	0.052		2.0	
Carbon Disulfide	0.787	0.897		14.0	
Methyl tert-butyl Ether	1.180	1.515		28.4	
Methyl Acetate	0.129	0.187		45.0	
Methylene Chloride	0.579	0.484		-16.4	
trans-1,2-Dichloroethene	0.480	0.544		13.3	
1,1-Dichloroethane	1.160	1.382	0.100	19.1	
Cyclohexane	0.562	0.376		-33.1	
2-Butanone	0.049	0.061		24.5	
Carbon Tetrachloride	1.443	1.179		-18.3	
cis-1,2-Dichloroethene	0.483	0.594		23.0	
Chloroform	1.679	1.998		19.0	20.0
1,1,1-Trichloroethane	1.655	1.824		10.2	
Methylcyclohexane	0.524	0.391		-25.4	
Benzene	1.189	1.323		11.3	
1,2-Dichloroethane	0.922	1.006		9.1	
Trichloroethene	0.528	0.638		20.8	
1,2-Dichloropropane	0.301	0.326		8.3	20.0
Bromodichloromethane	0.946	1.004		6.1	
4-Methyl-2-Pentanone	0.164	0.172		4.9	
Toluene	0.715	0.725		1.4	20.0
t-1,3-Dichloropropene	0.720	0.714		-0.8	
cis-1,3-Dichloropropene	0.681	0.702		3.1	
1,1,2-Trichloroethane	0.186	0.206		10.8	
2-Hexanone	0.129	0.123		-4.7	
Dibromochloromethane	0.490	0.534		9.0	
1,2-Dibromoethane	0.258	0.289		12.0	
Tetrachloroethene	0.774	1.006		30.0	
Chlorobenzene	1.025	1.088	0.300	6.1	
Ethyl Benzene	0.498	0.509		2.2	20.0
m,p-Xylenes	0.643	0.632		-1.7	
o-Xylene	0.604	0.600		-0.7	
Styrene	0.988	1.029		4.1	

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name:	Chemtech	Contract:	TETR04			
Lab Code:	CHEM	Case No.:	T4414	SAS No.:	T4414	
Instrument ID:	MSVOAF			Calibration Date/Time:	9/7/2005 20:01	
Lab File ID:	VF090713.D			Init. Calib. Date(s):	8/20/2005 8/20/2005	
Heated Purge: (Y/N)	N			Init. Calib. Time(s):	11:13 13:53	
GC Column:	RTX624	ID:	0.53 (mm)			

COMPOUND	RRF	RRF010	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.517	0.430		-16.8	
Chloromethane	0.322	0.260	0.100	-19.3	
Vinyl Chloride	0.416	0.387		-7.0	20.0
Bromomethane	0.228	0.215		-5.7	
Chloroethane	0.177	0.176		-0.6	
Trichlorofluoromethane	0.675	0.662		-1.9	
1,1,2-Trichlorotrifluoroethane	0.745	0.735		-1.3	
1,1-Dichloroethene	0.396	0.387		-2.3	20.0
Acetone	0.018	0.016		-11.1	
Carbon Disulfide	1.194	1.072		-10.2	
Methyl tert-butyl Ether	0.479	0.440		-8.1	
Methyl Acetate	0.084	0.092		9.5	
Methylene Chloride	0.367	0.308		-16.1	
trans-1,2-Dichloroethene	0.441	0.426		-3.4	
1,1-Dichloroethane	0.736	0.726	0.100	-1.4	
Cyclohexane	0.805	0.783		-2.7	
2-Butanone	0.063	0.058		-7.9	
Carbon Tetrachloride	0.483	0.444		-8.1	
cis-1,2-Dichloroethene	0.443	0.425		-4.1	
Chloroform	0.763	0.731		-4.2	20.0
1,1,1-Trichloroethane	0.726	0.699		-3.7	
Methylcyclohexane	0.637	0.593		-6.9	
Benzene	0.967	0.923		-4.6	
1,2-Dichloroethane	0.175	0.159		-9.1	
Trichloroethene	0.372	0.339		-8.9	
1,2-Dichloropropane	0.314	0.291		-7.3	20.0
Bromodichloromethane	0.381	0.354		-7.1	
4-Methyl-2-Pentanone	0.084	0.077		-8.3	
Toluene	0.700	0.651		-7.0	20.0
t-1,3-Dichloropropene	0.270	0.251		-7.0	
cis-1,3-Dichloropropene	0.407	0.375		-7.9	
1,1,2-Trichloroethane	0.174	0.160		-8.0	
2-Hexanone	0.053	0.047		-11.3	
Dibromochloromethane	0.234	0.215		-8.1	
1,2-Dibromoethane	0.202	0.184		-8.9	
Tetrachloroethene	0.386	0.387		0.3	
Chlorobenzene	0.986	0.965	0.300	-2.1	
Ethyl Benzene	0.567	0.562		-0.9	20.0
m&p-Xylenes	0.685	0.693		1.2	
o-Xylene	0.631	0.625		-1.0	
Styrene	1.024	1.009		-1.5	

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name:	Chemtech	Contract:	TETR04		
Lab Code:	CHEM	Case No.:	T4414	SAS No.:	T4414
Instrument ID:	MSVOAG			Calibration Date/Time:	8/31/2005 16:33
Lab File ID:	VG083105.D			Init. Calib. Date(s):	8/29/2005 8/29/2005
Heated Purge: (Y/N)	N			Init. Calib. Time(s):	11:05 13:54
GC Column:	RTX624	ID:	0.18	(mm)	

COMPOUND	RRF	RRF020	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.727	0.739		1.7	
Chloromethane	0.360	0.265	0.100	-26.4	
Vinyl Chloride	0.322	0.317		-1.6	20.0
Bromomethane	0.365	0.460		26.0	
Chloroethane	0.223	0.372		66.8	
Trichlorofluoromethane	1.211	1.203		-0.7	
1,1,2-Trichlorotrifluoroethane	0.728	0.724		-0.5	
1,1-Dichloroethene	0.417	0.500		19.9	20.0
Acetone	0.051	0.073		43.1	
Carbon Disulfide	0.787	0.906		15.1	
Methyl tert-butyl Ether	1.180	1.302		10.3	
Methyl Acetate	0.129	0.148		14.7	
Methylene Chloride	0.579	0.451		-22.1	
trans-1,2-Dichloroethene	0.480	0.528		10.0	
1,1-Dichloroethane	1.160	1.243	0.100	7.2	
Cyclohexane	0.562	0.557		-0.9	
2-Butanone	0.049	0.054		10.2	
Carbon Tetrachloride	1.443	1.682		16.6	
cis-1,2-Dichloroethene	0.483	0.514		6.4	
Chloroform	1.679	1.839		9.5	20.0
1,1,1-Trichloroethane	1.655	1.694		2.4	
Methylcyclohexane	0.524	0.604		15.3	
Benzene	1.189	1.281		7.7	
1,2-Dichloroethane	0.922	1.102		19.5	
Trichloroethene	0.528	0.614		16.3	
1,2-Dichloropropane	0.301	0.324		7.6	20.0
Bromodichloromethane	0.946	1.133		19.8	
4-Methyl-2-Pentanone	0.164	0.184		12.2	
Toluene	0.715	0.755		5.6	20.0
t-1,3-Dichloropropene	0.720	0.806		11.9	
cis-1,3-Dichloropropene	0.681	0.765		12.3	
1,1,2-Trichloroethane	0.186	0.209		12.4	
2-Hexanone	0.129	0.138		7.0	
Dibromochloromethane	0.490	0.548		11.8	
1,2-Dibromoethane	0.258	0.295		14.3	
Tetrachloroethene	0.774	0.839		8.4	
Chlorobenzene	1.025	1.075	0.300	4.9	
Ethyl Benzene	0.498	0.542		8.8	20.0
m-p-Xylenes	0.643	0.676		5.1	
o-Xylene	0.604	0.623		3.1	
Styrene	0.988	1.028		4.0	

Surrogate Summary
SW-846SDG No.: T4414Client: Tetra Tech NUS, Inc.Analytical Method: EPA SW846 8260 - LOW

Lab Sample ID	Client ID	Parameter	Spike	Result	Recovery	Qual	Limits	
							Low	High
BSG0831W2	VLCS01	1,2-Dichloroethane-d4	10	10.16	102		72.00	119.00
		Dibromofluoromethane	10	9.79	98		85.00	115.00
		Toluene-d8	10	8.93	89		81.00	120.00
		4-Bromofluorobenzene	10	9.39	94		76.00	119.00
T4324-09MS	T4324-09MS	1,2-Dichloroethane-d4	10	9.79	98		72.00	119.00
		Dibromofluoromethane	10	9.82	98		85.00	115.00
		Toluene-d8	10	9.77	98		81.00	120.00
		4-Bromofluorobenzene	10	13.3	133	*	76.00	119.00
T4324-10MSD	T4324-10MSD	1,2-Dichloroethane-d4	10	8.98	90		72.00	119.00
		Dibromofluoromethane	10	9.89	99		85.00	115.00
		Toluene-d8	10	9.55	96		81.00	120.00
		4-Bromofluorobenzene	10	13	130	*	76.00	119.00
T4414-01	TB-082505	1,2-Dichloroethane-d4	10	9.86	99		72.00	119.00
		Dibromofluoromethane	10	10.45	105		85.00	115.00
		Toluene-d8	10	10.52	105		81.00	120.00
		4-Bromofluorobenzene	10	10.95	110		76.00	119.00
T4414-02	FB-082505	1,2-Dichloroethane-d4	10	9.86	99		72.00	119.00
		Dibromofluoromethane	10	10.45	105		85.00	115.00
		Toluene-d8	10	9.74	97		81.00	120.00
		4-Bromofluorobenzene	10	11.17	112		76.00	119.00
T4414-03	05MW12S	1,2-Dichloroethane-d4	10	9.74	97		72.00	119.00
		Dibromofluoromethane	10	10.23	102		85.00	115.00
		Toluene-d8	10	10.09	101		81.00	120.00
		4-Bromofluorobenzene	10	12.06	121	*	76.00	119.00
T4414-03DL	05MW12SDL	1,2-Dichloroethane-d4	10	9.81	98		72.00	119.00
		Dibromofluoromethane	10	9.64	96		85.00	115.00
		Toluene-d8	10	10.01	100		81.00	120.00
		4-Bromofluorobenzene	10	10.02	100		76.00	119.00
T4414-04	05MW14I	1,2-Dichloroethane-d4	10	9.65	97		72.00	119.00
		Dibromofluoromethane	10	10.11	101		85.00	115.00
		Toluene-d8	10	10.77	108		81.00	120.00
		4-Bromofluorobenzene	10	11.4	114		76.00	119.00
T4414-05	DUP-04	1,2-Dichloroethane-d4	10	10.74	107		72.00	119.00
		Dibromofluoromethane	10	9.75	98		85.00	115.00
		Toluene-d8	10	9.52	95		81.00	120.00
		4-Bromofluorobenzene	10	10.82	108		76.00	119.00
T4414-06	RB-082505	1,2-Dichloroethane-d4	10	10.39	104		72.00	119.00
		Dibromofluoromethane	10	10.21	102		85.00	115.00
		Toluene-d8	10	9.66	97		81.00	120.00
		4-Bromofluorobenzene	10	11.2	112		76.00	119.00
VBF0907W4	VBLK01	1,2-Dichloroethane-d4	10	9.67	97		72.0	

Matrix Spike/Matrix Spike Duplicate Summary
SW-846
SDG No.: T4414Client: Tetra Tech NUS, Inc.Analytical Method: EPA SW846 8260 - LOW

Lab Sample ID	Parameter	Spike	Sample Result	Result	Limits				
					Rec	RPD	Qual	Low	High
Client Sample ID: T4324-09MS									
T4324-09MS	1,1-Dichloroethene	10	20.0	31	110			68	131
	Benzene	10	0.0	13	130	*		74	125
	Trichloroethene	10	1.2	14	128	*		76	123
	Toluene	10	3.5	14	105			73	129
	Chlorobenzene	10	0.0	13	130			72	135
Client Sample ID: T4324-10MSD									
T4324-10MSD	1,1-Dichloroethene	10	20.0	37	170	43	*	68	131
	Benzene	10	0.0	13	130	0	*	74	125
	Trichloroethene	10	1.2	15	138	8	*	76	123
	Toluene	10	3.5	15	115	9		73	129
	Chlorobenzene	10	0.0	13	130	0		72	135

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	
Project:	NAS JRB Willow Grove	Date Received:	
Client Sample ID:	VBLK02	SDG No.:	T4414
Lab Sample ID:	VBG0831W3	Matrix:	WATER
Analytical Method:	8260-Low	% Moisture:	100
Sample Wt/Wt:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG083108.D	1	8/31/2005	VG082905

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.09	U	1.0	0.09	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	1.8		1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	0.09	U	1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	0.12	U	1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

U = Not Detected

J = Estimated Value

RL = Reporting Limit

B = Analyte Found in Associated Method Blank

MDL = Method Detection Limit

N = Presumptive Evidence of a Compound

E = Value Exceeds Calibration Range

GASES

6 QC BS/BSD-200 PPMV Spike
 6 MS/MSD

Sample Filename: F:\DATA3\083104.RAW
 BS Filename: F:\DATA3\083108.RAW
 BSD Filename: F:\DATA3\083110.RAW
 Sample spiked: VBD0831W2

Date : 8/31/05

		Spike	Sample	BS Conc	BS	BSD Conc	BSD		RPD	Lower	Upper	RPD		
CAS #	Analyte	Added	Conc (ppmv)	ppmv	% Rec	Flag	ppmv	% Rec	Flag	RPD	Flag	Limits	Limits	Limits
74-82-8	METHANE	200	0	165	83		210	105		24	*	70	130	<20%
74-85-1	ETHYLENE	200	0	255	127		220	110		15		70	130	<20%
74-84-0	ETHANE	200	0	171	85		165	83		3		70	130	<20%

* D notes analyt outsid control limits

EVALUATION OF ORGANIC DUPLICATE ANALYSIS PRECISION

Precision Objectives	Aqueous Solid Air	Compound > or = 5xCRQL/MDL RPD < or = 30% RPD < or = 50% RPD < or = 20%	Compound < 5xCRQL Difference < or = CRQL/MDL Difference < or = 2xCRQL/MDL Difference < or = CRQL/MDL		
Sample ID:	05MW14I	DUP-04			
Laboratory ID:					
Sample Date:	8/25/2005	8/25/2005			
Duplicate:	DUP-04	05MW14I			
PARAMETERS	RESULT mg/Kg	RESULT mg/Kg	RPD	CRQL/MDL	NOTES
1,1-Dichloroethene	24	23	4.3	0.19	1, IN
1,1-Dichloroethane	13	14	-7.4	0.17	1, IN
cis-1,2-dichloroethene	2	2	0.0	0.09	1, IN
1,1,1-Trichloroethane	20	20	0.0	0.16	1, IN
Trichloroethene	7.9	7.5	5.2	0.12	1, IN

NOTES

1 - When both results are > or = 5xCRQL/MDL, the acceptance limit is the relative percent difference must be < or = 30% for aqueous and air samples and must be < 50% for solid samples.

2 - When at least one of the results is < 5x CRQL/MDL, the acceptance limit is the difference between the results must be < or = CRQL/MDL for aqueous and air samples and < or = 2xCRQL/MDL for solid samples.

Q - The qualifier is entered to indicate if the analyte was not detected or qualitatively questionable in the sample.

U - the compound was not detected in the sample at or above the associated numerical value.

NC - The RPD was not calculated because one of the results was not detected; the acceptance limit used is the difference between the results must be < or = CRQL/MDL for aqueous and air samples and < or = 2xCRQL/MDL for solid samples.

J - The positive results should be considered estimated.

B - The result should be considered non-detected or qualitatively questionable due to blank contamination.

IN - The results are acceptable.

COMMENTS

No qualifications due to field duplicate precision.
